



July 30, 2014

Pam King
Washington Holdings
600 University Street, Suite 2820
Seattle, WA 98101

RE: Water Quality Testing, EPA Tenant Improvement Project
Park Place Building
Sampling Event #6 -Floors 14 & 15
1200 6th Avenue
Seattle, Washington

RGA Job# WAHLD35088

On July 25, 2014, Andrea Liljegren and Adam Kinch, Industrial Hygienists for RGA Environmental, A Terracon Company (RGA) conducted drinking water testing for lead and copper at the above captioned site. Testing conducted in accordance with EPA-812-B-94-002 was used to collect samples from floors 14, 15 and at the Service Connection located on Parking Level 1. The purpose of the testing was to evaluate plumbed drinking water sources following tenant improvement renovations. Ms. Liljegren and Mr. Kinch were escorted by the Building Chief Engineer, Toni Carroll from the Park Place building. This report documents the results for Floor 14

SAMPLING PROCEDURES

A total of thirty (30) drinking water samples were collected during the sampling event. Samples were collected in sample bottles provided by the Aquatic Research, Inc. (250 ml, polyethylene with nitric acid preservative). Samples were analyzed for lead and copper in drinking water using EPA Method 200.8.¹ Drinking water samples were collected from the service main (P1) and restrooms, drinking fountains, break room sinks, and break room refrigerators on the 14th and 15th floors at the Park Place building in Seattle, Washington.

The sampling protocol for the restroom sinks, restroom water fountains, break room sinks, break room refrigerators (with water taps), consisted of a "first draw" sample (first water out of the tap following at least 8 hours of non-use) and a "secondary draw" sample (water collected after 30 seconds of flushing).

The sampling protocol for the Service Connection/ Service Main consisted of opening the tap closest to the service connection located in the garage and waiting for the water temperature to change from warm to cold before collecting the sample for the Service Connection. The water to then flushed for an additional 3 minutes following the collection of the Service Connection sample before collecting the Service Main Sample.

One sample set was collected at the service connector and water main located on the P1 level of the parking garage. Seven sample sets were collected on each of floors 14 and 15 (1 set from a sink in each restroom (including ADA restroom), 1 set from each of the two restroom water fountains, 1 set from the break room sink, and 1 set from the break room refrigerator).

¹ The water samples collected were submitted to Aquatic Research, Inc. (lead) in Seattle, Washington for analysis.

SAMPLE RESULTS

Table 1 below presents the sample results for samples (lead & copper) collected on July 25, 2014.

Table 1—Lead Water Sample Results – May 30, 2014

Location	SAMPLE ID	Lead (Pb) µg/l)	Copper (Cu) µg/l)	Lead Result	Copper Result
FLOOR 14					
Drinking Fountain by Women's Restroom	14-WWF-FD-49	<1.0	49.5	Pass	Pass
	14-WWF-SD-50	<1.0	20.5	Pass	Pass
Women's Restroom Sink	14-WR-FD-51	38.6	255	Action Required	Pass
	14-WR-SD-52	3.9	127	Pass	Pass
Men' Restroom Sink	14-MR-FD-53	6.2	149	Pass	Pass
	14-MR-SD-54	1.7	150	Pass	Pass
Drinking Fountain by Men's Restroom	14-MWF-FD-55	<1.0	7.4	Pass	Pass
	14-MWF-SD-56	<1.0	13.1	Pass	Pass
Break Room Sink	14-BRS-FD-57	<1.0	<4.0	Pass	Pass
	14-BRS-SD-58	<1.0	<4.0	Pass	Pass
Break Room Refrigerator	14-BRR-FD-59	<1.0	274	Pass	Pass
	14-BRR-SD-60	<1.0	317	Pass	Pass
ADA Restroom Sink	14-ADA-FD-61	1.0	364	Pass	Pass
	14-ADA-SD-62	1.4	348	Pass	Pass
FLOOR 15					
Drinking Fountain by Women's Restroom	15-WWF-FD-63	<1.0	41.4	Pass	Pass
	15-WWF-SD-64	<1.0	19.3	Pass	Pass
Women's Restroom Sink	15-WR-FD-65	161	517	Action Required	Pass
	15-WR-SD-66	14.0	325	Pass	Pass
Men' Restroom Sink	15-MR-FD-67	16.4	580	Action Required	Pass
	15-MR-SD-68	5.1	652	Pass	Pass
Drinking Fountain by Men's Restroom	15-MWF-FD-69	<1.0	46.2	Pass	Pass
	15-MWF-SD-70	<1.0	38.0	Pass	Pass
Break Room Sink	15-BRS-FD-71	<1.0	<4.0	Pass	Pass
	15-BRS-SD-72	<1.0	<4.0	Pass	Pass
Break Room Refrigerator	15-BRR-FD-73	2.1	339	Pass	Pass
	15-BRR-SD-74	1.2	174	Pass	Pass
ADA Restroom Sink	15-ADA-FD-75	2.5	530	Pass	Pass
	15-ADA-SD-76	2.1	445	Pass	Pass
PARKING LEVEL 1					
Main Water	P1-P1SC-FD-77	<1.0	208	Pass	Pass
	P1-P1SM-SD-78	<1.0	154	Pass	Pass
EPA Standard*		0 AL: 15 µg/L	AL: 1300 µg/L		

*EPA Drinking Water Maximum Contaminant Levels

FD=First Draw

P1SC/SM=Service Connector/Main (Garage)

MR=Men's Restroom

MWF=Men's Restroom Water Fountain

BRS= Break Room Sink

SD=Second Draw

ADA=ADA Restroom

WR=Women's Restroom

WWF=Women's Restroom Water Fountain

BRR=Break Room Refrigerator

CONCLUSIONS

Sixteen of the thirty water samples collected contained no detectable concentrations of lead (above 1 µg/L). Eleven of the samples contained detectable lead concentrations between 1 and 15 µg/L. No remedial or mitigation action is required for locations with sample results below the Drinking Water action level. Three samples were above the action level. The three samples above the action level were all first draw samples and were collected from the women's restroom on the 14th floor and the Men's and Women's Restrooms on the 15th floor. Water from these three sources should not be used until the source of lead is determined and mitigated.

Four of the thirty water samples collected contained no detectable concentrations of copper (above 4 µg/L). The remaining twenty-six samples contained copper concentrations between 4 and 1300 µg/L. No remedial or mitigation action is required for locations with sample results below the Drinking Water action level.


LIMITS OF SURVEY

This report does not represent all conditions at the subject site as it only reflects the information gathered from specific locations. Observation or sampling of other work areas was not within the scope of RGA's work and was not performed.

This report was prepared pursuant to the contract RGA has with the client. Unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

RGA appreciates the opportunity to provide you with technical support on this project. If you have any questions, please contact the undersigned at 206-281-8858.

Report Prepared by,



Eric Hartman, CIH
Senior Project Manager
RGA Environmental, Inc.

Attachments:

Lab Reports

Sample Location Maps



IEH - AQUATIC RESEARCH
LABORATORY & CONSULTING SERVICES
3927 AURORA AVENUE NORTH, SEATTLE, WA 98103
PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:	MIS033-74	PAGE 1
REPORT DATE:	07/30/14	
DATE SAMPLED:	07/25/14	DATE RECEIVED: 07/25/14
FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER		
SAMPLES FROM RGA ENVIRONMENTAL		

CASE NARRATIVE

Thirty water samples were received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on the subsequent pages.

SAMPLE DATA

SAMPLE ID	LEAD (ug/L)	COPPER (ug/L)
14-WWF-FD-49	<1.0	49.5
14-WWF-SD-50	<1.0	20.5
14-WR-FD-51	38.6	255
14-WR-SD-52	3.9	127
14-MR-FD-53	6.2	149
14-MR-SD-54	1.7	150
14-MWF-FD-55	<1.0	7.4
14-MWF-SD-56	<1.0	13.1
14-BRR-FD-57	<1.0	<4.0
14-BRR-SF-58	<1.0	<4.0
14-BRS-FD-59	<1.0	274
14-BRS-SD-60	<1.0	317
14-ADA-FD-61	1.0	364
14-ADA-SD-62	1.4	348
15-WWF-FD-63	<1.0	41.4
15-WWF-SD-64	<1.0	19.3
15-WR-FD-65	161	517
15-WR-SD-66	14.0	325
15-MR-FD-67	16.4	580
15-MR-SD-68	5.1	652
15-MWF-FD-69	<1.0	46.2
15-MWF-SD-70	<1.0	38.0
15-BRR-FD-71	<1.0	<4.0
15-BRR-SD-72	<1.0	<4.0
15-BRS-FD-73	2.1	339
15-BRS-SD-74	1.2	174
15-ADA-FD-75	2.5	530
15-ADA-SD-76	2.1	445
P1-PISC-FD-77	<1.0	208
P1-FISM-SD-78	<1.0	154



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FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER		
SAMPLES FROM RGA ENVIRONMENTAL		

QA/QC DATA

QC PARAMETER	LEAD (ug/L)	COPPER (ug/L)
METHOD	EPA 200.8	EPA 200.8
DATE ANALYZED	07/29,30/14	07/29,30/14
REPORTING LIMIT	1.0	4.0
DUPLICATE		
SAMPLE ID	14-WWF-SD-50	14-WWF-SD-50
ORIGINAL	<1.0	20.5
DUPLICATE	<1.0	19.9
RPD	NC	2.97%
SPIKE SAMPLE		
SAMPLE ID	14-WWF-SD-50	14-WWF-SD-50
ORIGINAL	<1.0	20.5
SPIKED SAMPLE	55.9	72.5
SPIKE ADDED	50.0	50.0
% RECOVERY	111.80%	104.00%
QC CHECK		
FOUND	52.5	52.7
TRUE	50.0	50.0
% RECOVERY	105.00%	105.40%
BLANK	<1.0	<4.0

RPD = RELATIVE PERCENT DIFFERENCE.

NA = NOT APPLICABLE OR NOT AVAILABLE.

NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.

OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TOO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski
Project Manager



REPORT TO:		INVOICE TO: (IF DIFFERENT FROM REPORT)	
Client:	RGA Environmental	Client:	
Address:	3317 3rd Ave South, Ste D Seattle WA 98134	Address:	← Same
Contact:	Eric Hartman	Contact:	
Email:	eric.hartman@rgaenv.com	Email:	
Phone:	206-281-8858	Phone:	
Fax:	J	Fax:	
Reporting/Invoicing Format <input type="checkbox"/> Fax <input type="checkbox"/> Email <input type="checkbox"/> Mail		Turn Around Time (TAT)* <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Business Day <input type="checkbox"/> 3 Business Day <input checked="" type="checkbox"/> Standard 5day	
QC Data Reported <input type="checkbox"/> Yes <input type="checkbox"/> No		Specific Date: _____ *Advanced notice required for Rush Analysis	
Sample Disposal <input type="checkbox"/> Hold <input type="checkbox"/> Dispose <input type="checkbox"/> Return		SAMPLE DESCRIPTION (This Will Appear On The Report)	
SAMPLING			
Date (mm-dd-yy)	Time	Matrix**	Number of Containers
7-25-14	0636	DW	Lead, EPA Method 200.8
	0636		Copper
	0633		
	0633		
	0644		
	0644		
	0632		
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	0614		
**Matrix: B=Biota, DW=Drinking Water, GW=Ground Water, P=Paint, S=Soil, SD=Sediment, SL=Sludge, SW=Surface Water, WW=Wastewater		Analysis Requested	
Received By: [Signature] Date: 7/24/14 Time: 08:17		Shipped By: [Signature]	
Sampled By: [Signature] Date: 7/25/14 Time:		Received at Aquatic By: [Signature]	
Relinquished to Aquatic By (Signature)		Shipping Reference	
		Date: 7/25/14 Time: 9:00	



IEH - Aquatic Research

3927 Aurora Ave N • Seattle • WA • 98103
P: 206-632-2715 F: 206-632-2417



Chain of Custody Form

Page 2 of 2

REPORT TO:

Client:

Address:

Contact:

Email:

Phone:

Fax:

INVOICE TO: (IF DIFFERENT FROM REPORT)

Client:

Address:

Contact:

Email:

Phone:

Fax:

PROJECT INFORMATION

Quote No.:

Client PO:

Client Project: B3137223

Boa Environmental

3317 3rd Ave South, Ste 10

Seattle, WA 98134

Eric Hartman

eric.hartman@boaenv.com

206-261-8858

206-261-8858

Reporting/Invoicing Format

☐ Fax ☐ Email ☐ Mail

QC Data Reported

☐ Yes ☐ No

Sample Disposal

☐ Hold ☐ Dispose ☐ Return

SAMPLING

Date (mm-dd-yy)

Time

Matrix**

Sample Description

Advanced notice required for Rush Analysis

(This Will Appear On The Report)

Turn Around Time (TAT)*

☐ Next Day ☐ 2 Business Day

☐ 3 Business Day ☒ Standard 5 day

Specific Date:

7/25/14

0610

Duo

15-WR-FD-65

15-WR-SD-66

15-MR-FD-67

15-MR-SD-68

15-MWF-FD-69

15-MWF-FD-70

15-RRR-FD-71

15-RRR-SD-72

15-BRS-FD-73

15-BRS-SD-74

15-ADA-FD-75

15-ADA-SD-76

0618

0658

0701

Number of Containers

Lead, EPA Method 200.9
Copper

Analysis Requested

Field pH (if applicable)

Field Temp (if applicable)

Metals Field Filtered (Y/N)

Containers Received

LAB USE ONLY

Case File Number

Temp

Lab ID

2190C

Comments:

Shipped By:

Received at Aquatic By:

Shipping Reference

Date:

Time

**Matrix: B=Biota, DW=Drinking Water, GW=Ground Water, P=Paint, S=Soil,
SD=Sediment, SL=Sludge, SW=Surface Water, WW=Wastewater

Sampled By:

Date

Time

Received By:

Date

Time

Relinquished to Aquatic By (Signature)

Date

Time

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
2. MAINTAIN VEHICLE CLEARANCES IN GARAGE. COORDINATE WITH BUILDING OWNER.
3. EXTEND EXISTING FIRE SUPPRESSION SYSTEM TO PROVIDE COMPLETE SPRINKLER COVERAGE FOR NEW FLOOR LAYOUT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- 1 ROUTE WASTE PIPING IN BEAM POCKET AND KEEP AS CLOSE TO STRUCTURE AS POSSIBLE.
- 2 MAINTAIN VEHICLE CLEARANCE HEIGHT ABOVE DRIVE. ROUTE WASTE PIPING 1/8" PER FOOT AND KEEP AS CLOSE TO STRUCTURE AS POSSIBLE.
- 3 CORE DRILL BEAM AT THIS LOCATION. COORDINATE FINAL LOCATION WITH STRUCTURAL.
- 4 1/2" TRAP PRIMER UP TO ELECTRONIC MANIFOLD (TYPE 2). ROUTE TRAP PRIMER PIPING TO ALL FLOOR DRAINS SERVING RESTROOMS.



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Handis Engineers, Inc.
600 Stewart Street, Suite 1000 | Seattle, WA 98101
t) 206.448.3376 f) 206.448.4480 w | handis.biz

Date & Issue Description	By	Check
07/12/2011 50% CD / Pidding	AH	RE
09/12/2011 95% CD / Pidding	AH	RE
10/24/2011 100% CD	AH	RE
12/09/2011 100% CD Confirmed Set	AH	RE
01/23/2013 95% Combined Set	AH	RE
03/07/2013 100% Combined Set	AH	RE

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1.0" = 4' 0"

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PLUMBING PLAN - PARKING LEVEL 1 - NORTH

Q:\32.8169.000\BIM\Building Model\ User Model Files\Barry Zimmerman_32.8169.000_EPA_Phase 2 Model

3/7/2013 11:59:08 AM

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
2. EXTEND EXISTING FIRE SUPPRESSION SYSTEM TO PROVIDE COMPLETE SPRINKLER COVERAGE FOR NEW FLOOR LAYOUT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

1. CONNECT NEW 3/4" HW, 1-1/4" CW AND 2" V TO EXISTING SERVICE.
2. 1/2" CW. CONNECT TO REFRIGERATOR.
3. CONNECT 4" WASTE TO EXISTING WASTE RISER. VERIFY POC LOCATION IN FIELD.
4. WASTE RISER HAS BEEN OFFSET FOR CLARITY. THE POC IS INSTALLED DIRECTLY ABOVE THE PICTURE SHOWN.
5. 2-1/2" GSS AND GSR LINES DOWN TO GRAC-1 AND GRAC-2. GRAC-1 AND GRAC-2 ARE 15600 AND UP TO PE-1 AND DD-2 ON THE ROOF.

1200 6th Avenue Suite 500
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Telephone 206.654.2100
Facsimile 206.654.2121

Gensler

HARGIS

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EPA - REGION 10

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[illegible]

Product Name

EPA - REGION 10

Project Number
32 8160 000

Description

PLUMBING PLAN -
14TH FLOOR

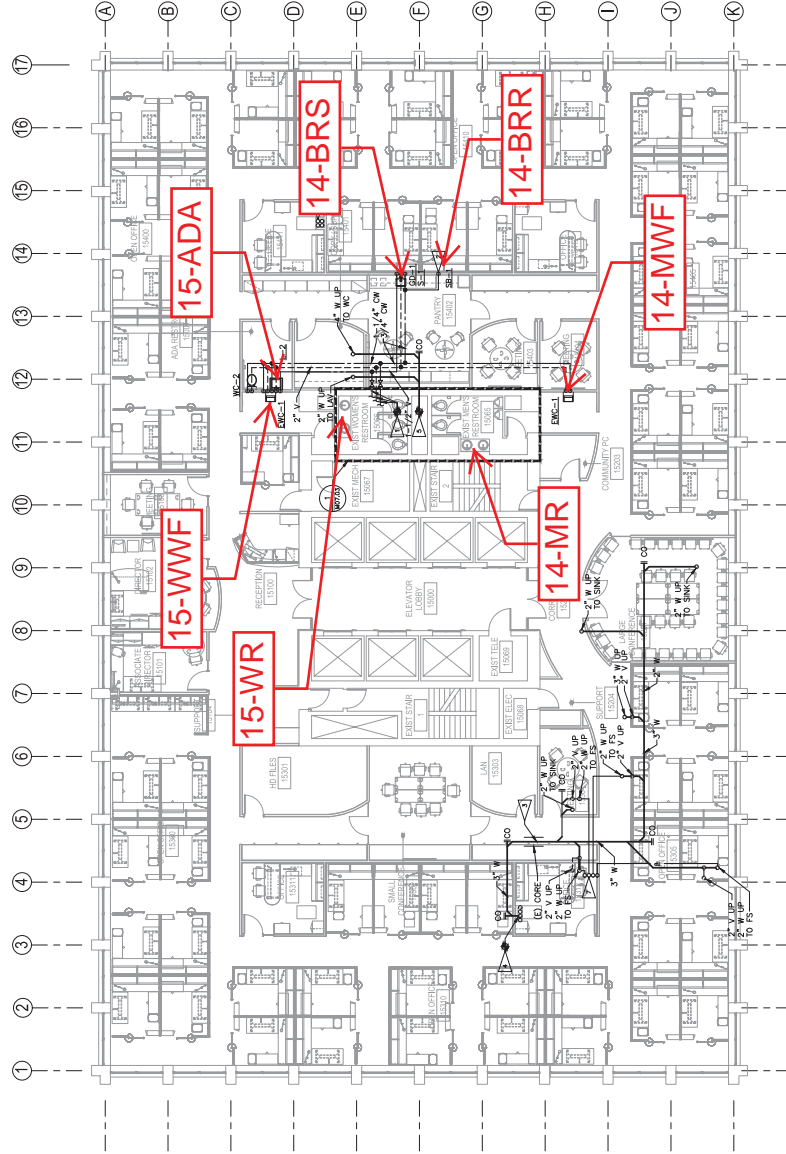
Scale
1.0" = 4' 0"

M02.14

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1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
2. EXTEND EXISTING FIRE SUPPRESSION SYSTEM TO PROVIDE COMPLETE SPRINKLER COVERAGE FOR NEW FLOOR LAYOUT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

△	CONNECT NEW 3/4" HW, 1-1/4" CW AND 2" V TO EXISTING SERVICE.
△	1/2" CW, CONNECT TO REFRIGERATOR.
△	ROUTE WASTE PIPING THROUGH (E) BEAM PENETRATION.
△	CONNECT 3" WASTE TO EXISTING WASTE, VERIFY POC LOCATION IN FIELD.
△	CONNECT 4" WASTE TO EXISTING WASTE RISER, VERIFY POC LOCATION IN FIELD.
△	2-1/2" GSS AND GSR LINES DOWN TO CHAC-1 AND CHAC-2 SERVING NETWORK ROOM 13600 AND UP TO 10-1 AND 10-2 ON THE ROOF.
△	1/2" TRAP PRIMER UP TO ELECTRONIC MANIFOLD (TYP 4).
△	CONNECT TRAP PRIMING PIPING TO ALL FLOOR 32 SERVING GRAB NODS.



EPA - REGION 10

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[illegible]

Project Name:

FPA - REGION 10

Project Number
328159.000

Description

PLUMBING PLAN -
15TH FLOOR

$$\frac{\text{Scale}}{1.8^\circ = 1''}$$

M02.15

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